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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Brian Thornton

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Group Art Unit: 3752

Serial No.: 09/761,940

Examiner: Robin Octavia Evans

Filed: January 17, 2001

For: Lawn Chemical Application System

BRIEF ON APPEAL

This is an appeal from the final rejection dated September 10, 2002, in which the Examiner finally rejected claims 1-10 and 16-18. The final rejections of claims 1-10 and 16-18 are appealed.

1. REAL PARTY IN INTEREST

The real party in interest is Brian Thornton.

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2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to appellant or the appellant's legal representative which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

3. STATUS OF CLAIMS

Claims 1-10 and 16-18 are pending in the application. The final rejections of claims 1-10 and 16-18 are appealed.

4. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection.

SUMMARY OF INVENTION

The present invention, is particularly useful as part of a lawn chemical application system. As set forth in claim 1, the present invention relates to a dispenser 12 with an

upper chamber 54 (P. 4, line 12), a lower chamber 28 (P. 3, line 20), and upstream and downstream openings 57 and 59 (P. 5, lines 3-6). Powered valves 14 and 16 are operably connected to the upstream and downstream openings 57 and 59 of the dispenser 12. P. 5, lines 8-15.

As set forth in claim 16, the present invention relates to a dispenser 12 formed by a tee connector 18 and a cylinder 20 secured to an upper opening 22 of the tee connector 18. P. 3, lines 17-19. The tee connector 18 forms a lower chamber 28 (P. 3, line 20), and the cylinder 20 forms the upper chamber 54 (P. 4, line 12). A lower portion of the upper chamber 54 is disposed below an upper portion of the lower chamber 28 and above a lower portion of the lower chamber. P. 4, lines 16-18. The lower portion of the upper chamber 54 has a plurality of openings 52 passing through the bottom 50 and passing through a side. P. 4, lines 7-9. The lower portion of the lower chamber 28 is unobstructed over substantially its entire length. P. 4, lines 18-19.

## 5. ISSUES

Whether the applied reference, Truong, establishes a prima facie case of anticipation with respect to claim 16.

Whether the applied references, Truong and Hsu, establish a prima facie case of obviousness with respect to claims 1-10.

Whether the applied references, Truong and Hsu, establish a prima facie case of obviousness with respect to claims 17 and 18.

## 6. GROUPING OF CLAIMS

Claim 16 stands finally rejected, under 35 U.S.C. § 102, as being unpatentable over Truong. This ground of rejection does not apply to any other claim.

Claims 1-10 stand finally rejected, as one group, under 35 U.S.C. § 103(a), as being unpatentable over Truong in view of Hsu. Claims 2-10 depend from claim 1 and stand or fall with claim 1.

Claims 17 and 18 stand finally rejected, as one group, under 35 U.S.C. § 103(a), as being unpatentable over Truong in view of Hsu. Claims 17 and 18 depend from claim

16 and stand or fall with claim 16.

## 7. ARGUMENT

### A. *The applied reference, Truong, does not establish a prima facie case of anticipation with respect to claim 16.*

Claim 16 stands finally rejected under 35 U.S.C. § 102 as being anticipated by Truong. Claim 16 specifies that the lower portion of the upper chamber has “a bottom with a plurality of openings passing therethrough” and has “a side with a plurality of openings passing therethrough . . . .” In paragraph 2 of the final Office action, the Examiner takes the position that Truong (best seen in Figs. 9 and 10) discloses “an upper chamber formed by cylinder 42, the upper chamber having a lower portion 43, plurality of side openings 44, plurality of bottom openings 45 . . . .” In paragraph 5 of the final Office action, the Examiner takes the position that the housing 42 is identical in structure to the housing 22 shown in Fig. 1 and that Fig. 1 shows V shaped flow passages 30. The Examiner states that “[t]he flow passages 30 are in the bottom wall as shown in Fig. 2 and if the housing 42 is identical to that of housing 22 then the elements 45 must also be flow passages and would constitute a plurality of openings as recited in claim 16.

Applicant respectfully submits that the Examiner has simply misread the drawings and that reference number 45 refers to a bottom wall and not to openings or flow passages. At col. 3, line 33, in listing the references numerals, Truong identifies the reference numeral 45 as referring to “bottom wall of 43”. Fig. 9 makes clear that bottom wall 45 is solid. It is also respectfully submitted that the Examiner has simply misread the drawings in discussing the embodiment disclosed in Figs. 1 and 2. The Examiner states that the flow passages 30 are in the bottom wall of the embodiment shown in Figs. 1 and 2. It is respectfully submitted that this is incorrect. Fig. 2 is a cross-sectional view taken along line 2—2 of Fig. 1, and Fig. 1 shows that the flow passages 30 are above the bottom wall 33, not in bottom wall 33. The Examiner also compares flow passages 30 in Figs. 1 and 2 to the bottom wall 45 in Figs. 9 and 10. It is respectfully submitted that this is also incorrect. Figure 9 makes clear that the embodiment disclosed in Figs. 9 and 10 also has flow passages 30 and that the correct comparison would be between the bottom

wall 45 of Fig. 9 and bottom wall 33 of Fig. 1, which is also clearly solid. It is respectfully submitted that the Examiner erred in taking the position that reference number 45 constitutes a “plurality of bottom openings,” when reference numeral 45 clearly constitutes a solid bottom wall.

In rejecting claims, the Examiner bears the initial burden of presenting a *prima facie* case of unpatentability. See, e.g., In re Glaug, 977 F.2d 1443, 1445, 62 U.S.P.Q.2d 1151, 1152 (Fed. Cir. 2002). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. Id. A *prima facie* case of anticipation is established when it is shown that a prior art reference discloses every limitation of the claimed invention, either explicitly or inherently. See, e.g., In re Schrieber, 44 U.S.P.Q.2d 1429, 1431 (Fed. Cir. 1997). As discussed above, the Examiner has erred in stating that the solid bottom wall 45 constitutes a plurality of bottom openings. It is respectfully submitted that Truong does not disclose, teach, or suggest providing a lower chamber in which both the bottom and the side of the upper chamber have a plurality of openings passing therethrough.

It is respectfully submitted that the Examiner has failed to meet her initial burden of establishing a *prima facie* case of anticipation. It is also respectfully submitted that the above arguments have illustrated that claim 16 distinguishes over and is patentable over Truong. It is therefore respectfully requested that the final rejection of claim 16 be reversed.

Claim 16 was not rejected on grounds of 35 U.S.C. § 112, but in preparing this brief on appeal, Applicant noticed an easily corrected error in claim 16. In claim 16, line 2, it is said that the tee connector forms a lower “channel” instead of a lower “chamber”. The three later references to this component in claim 16 refer to “said lower chamber” as seen at lines 4-5, 5, and 8 of claim 16. The first reference to “said lower chamber” lacks an antecedent basis, until the erroneous reference to “a lower channel” is corrected to read “a lower chamber”. It is respectfully requested that the Board include this new ground of rejection of claim 16 in its decision as allowed by 37 C.F.R. § 1.196(b) so that this obvious error may be corrected.

B. *The applied references, Truong and Hsu, do not establish a prima facie case of obviousness with respect to claims 1-10.*

Claims 1-10 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Truong in view of Hsu. Claims 2-10 depend ultimately from claim 1 and therefore stand or fall with claim 1. Claim 1 calls for “a first powered valve” operably connected to the upstream opening of the dispenser and “a second powered valve” operably connected to the downstream opening of the dispenser. In paragraph 4 of the final Office action, the Examiner states that:

Truong shows all of the claimed limitations including an upstream opening and a downstream opening but does not show a powered valve connected to the openings. Hsu shows powered valves in the form of solenoid valves 11 and 14 connected before and after a tee connector 10, which mixes one flow with another flow. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a powered solenoid valves like the ones shown by Hsu to the device of Truong so as to be able to control the flow and the use of the device in an automatic manner.

Hsu discloses a vehicle washing device. The tee connector 10 is supplied with clean water from valve 130 and with cleaning solution from line 41. Between the tee connector 10 and the downstream powered valve 14 is another tee connector 15 that allows for water to be passed through line 150 to the cleaning solution container. Accordingly, Hsu uses two powered valves 11 and 14 to control and route input from two input streams, 41 and the unnumbered stream associated with valve 130, and through two output streams, 150 and the unnumbered stream downstream of valve 14. As explained at, among other places, col. 1, lines 13-14, the separate valves 11 and 14 are used to enable the apparatus to allow “clean water and/or the cleaning solution to pass to an automatic nozzle for washing.” The separate powered valves 11 and 14 are needed in Hsu so that the car wash spray nozzle 32 may be supplied with either cleaning solution or with clean water.

In contrast to the vehicle washing apparatus of Hsu, the lawn chemical applicator of Truong is patched into a single water line of a sprinkler system. There is no teaching or suggestion in Truong to switch between delivering either clean water or treated water, and adding upstream and downstream powered valves to Truong would not provide this

capability. Flow to the device of Truong is simply controlled by opening a water supply line to the water sprinkler system.

Truong also teaches against making such a combination. At col. 2, lines 16-21, Truong criticizes the prior art and stresses the need for a device of simple structure that is easy to install, stating:

Some of them are complicated in structure, expensive to build, and inconvenient to install to existing pipe fittings of sprinkler systems. The present invention helps the user solve those problems by installing it directly to any existing Tee pipe fitting of the sprinkler systems. . . It can be installed at strategically spaced positions of preexisting pop-up sprinklers and will allow the water to mix with and dissolve fertilizers and the like.

Similarly, at col. 2, lines 38-42, in listing specific objects and advantages of the invention, Truong includes “to provide an applicator which is simple and has no moving internal parts” and “to provide an applicator which is low cost and easy to install to any existing position of pop-up sprinklers.” Further still, at col. 4, lines 38-40, Truong explains that “the user may install the inventing applicators at equal distances along their sprinkler pipelines.”

It is respectfully submitted that the references provide very clear teachings against making the attempted combination and no teaching that suggests making the combination. For example, adding powered valves goes against the express teaching of providing an applicator with “no moving internal parts” and goes against the express teaching of providing an applicator that is “low cost and easy to install to any existing position of pop-up sprinklers.” It is further submitted that it would go against the direct teaching of Truong and destroy it for its intended purpose to add the powered valves of Hsu. There would be no motivation to do so because adding the powered valves of Hsu to Truong would not enable Truong to alternate between dispensing either clean water or treated water as the vehicle washing device of Hsu.

In paragraph 5 of the Office action, the Examiner states that:

The reason for combining the valves in the sprinkler line is known in the art as Buchan et al. (reference previously cited in the application) shows using valves in the treatment of liquid to control the dosage level of treating and therefore the reason or suggestion for combining the reference of Truong and Hsu is obvious . .

Buchan et al. discloses a water treatment installation that is particularly suited for chlorinating water at low dosages. The installation 10 includes an in-line dispensing or dosing apparatus 11. Buchan et al. teaches using valves 88 and 96 in combination with drain valves 90 and 94 or in combination with pressurizing means 100 and drain valves 120 to adjust the air pressure in the apparatus 10 which in turn adjusts the water level within the apparatus 10 and thereby allows the dosage level to be adjusted. To attempt to control the dosage level of Truong in the manner disclosed in Buchan et al. would appear to involve adding not only valves 88 and 96 but also drain valves 90 and 94 or pressurizing means 100 and drain valves 120.

For the same reasons that Truong teaches against adding the powered valves of Hsu, Truong also teaches against adding not only powered valves but also drains or drains in combination with pressurizing means. Like adding powered valves, adding drain valves go against Truong's teaching of providing an applicator that is designed to have no moving internal parts and that is designed to be easily installed in existing sprinkler tee connectors.

In rejecting claims, the Examiner bears the initial burden of presenting a *prima facie* case of unpatentability. See, e.g., In re Glaug, 977 F.2d 1443, 1445, 62 U.S.P.Q.2d 1151, 1152 (Fed. Cir. 2002). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. Id. To establish a *prima facie* case of obviousness, the Examiner must show "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." See, e.g., In re Fine, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). As discussed above, it is respectfully submitted that adding the powered valves of Hsu to Truong would go against the direct teachings of Truong, and if one did add the powered valves of Hsu, they would not be capable of serving the function that they serve in Hsu. For the powered valves of Hsu to provide for the control of dosage levels as in Buchan et al., one would have to depart even further from the teachings of Truong, adding not only powered

valves but also drain valves or a drain valve in combination with a pressurizing means. This would further complicate the system and make installation more difficult.

It is respectfully submitted that the Examiner has failed to meet her initial burden of establishing a *prima facie* case of obviousness with respect to claims 1-10. It is also respectfully submitted that the above arguments have illustrated that claims 1-10 distinguish over and are patentable over Truong in view of Hsu. It is therefore respectfully requested that the final rejection of claims 1-10 be reversed.

*C. The applied references, Truong and Hsu, do not establish a *prima facie* case of obviousness with respect to claims 17 and 18.*

Claims 17 and 18 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Truong in view of Hsu. Claims 17 and 18 both depend ultimately from claim 16 and therefore stand of fall with claim 16. As discussed in 7.A. above, claim 16 specifies that the lower portion of the upper chamber has “a bottom with a plurality of openings passing therethrough” and has “a side with a plurality of openings passing therethrough . . . .” In paragraph 4 of the final Office action, the Examiner states that “Truong shows all of the claimed limitations including an upstream opening and a downstream opening but does not show a powered valve connected to the openings. Hsu shows powered valves in the form of solenoid valves 11 and 14 . . . .” The Examiner also takes the position that the first and second reducer bushings of claim 17 would have been obvious.

It is respectfully submitted that the Examiner has relied upon Hsu for disclosing powered valves 11 and 14 and not for disclosing “a bottom with a plurality of openings passing therethrough and having a side with a plurality of openings passing therethrough . . . .” It is therefore submitted that claim 16 distinguishes over Truong in light of Hsu for the same reasons discussed in portion 7.A. above in connection with claim 16. In particular, Truong does not disclose, teach, or suggest an upper chamber having “a bottom with a plurality of openings passing therethrough,” and it does not appear that the Examiner has relied upon Hsu for disclosing this. Claims 17 and 18 both depend from and contain all limitations of claim 16, so it is respectfully submitted that claims 17 and

18 distinguish over and are patentable over Truong in light of Hsu for the same reasons as claim 16.

It is respectfully submitted that the Examiner has failed to meet her initial burden of establishing a prima facie case of obviousness with respect to claims 17 and 18. It is also respectfully submitted that the above arguments have illustrated that claims 17 and 18 distinguish over and are patentable over Truong in view of Hsu. It is therefore respectfully requested that the final rejection of claims 17 and 18 be reversed.

In view of the above, it is clear that the Appellant's invention is new, useful and nonobvious, that the differences over the closest and most pertinent prior art are material and significant, and that there is no basis in law for the rejections set forth by the Examiner.

It is therefore respectfully requested that this Honorable Board of Appeals correct these errors by reversing the final rejections of claims 1-10 and 16-18.

Respectfully submitted,

Date: 4-10-03

  
Mark Rogers  
Registration No. 34, 238

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Mark Rogers  
SPEED ROGERS, P.A.  
1701 Centerview, Suite 125  
Little Rock, Arkansas 72211  
Telephone: 501.219.2800  
Facsimile: 501.219.2879  
Email: mrogers@speedlaw.com

APPENDIX - Page 1 of 2

The following is a copy of the claims involved in the appeal.

1. 1. An apparatus, comprising:  
a dispenser having a lower chamber, an upper chamber, an upstream opening, and a downstream opening;  
a first powered valve operably connected to said upstream opening; and  
a second powered valve operably connected to said downstream opening.
2. The apparatus of claim 1, further comprising:  
a first water line secured to an upstream side of said first powered valve; and  
a second water line secured to a downstream side of said second powered valve.
3. The apparatus of claim 1 wherein:  
said first powered valve has a first conductor for supplying electricity to said first powered valve; and  
said second powered valve has a second conductor for supplying electricity to said second powered valve, said first conductor being in electrical contact with said second conductor.
4. The apparatus of claim 1 wherein said first and second powered valves comprise electrical solenoid valves.
5. The apparatus of claim 1 wherein a lower portion of said upper chamber is disposed below an upper portion of said lower chamber.
6. The apparatus of claim 5 wherein said lower portion of said upper chamber is disposed above a lower portion of said lower chamber.
7. The apparatus of claim 6 wherein said lower portion of said lower chamber is unobstructed over substantially its entire length.
8. The apparatus of claim 5 wherein said dispenser comprises a tee connector and a cylinder secured to an upper opening of said tee connector.

9. The apparatus of claim 5 wherein said upper chamber comprises a cylinder, said cylinder having an upper portion with a first diameter, and a lower portion with a second diameter, said second diameter being less than said first diameter.
  10. The apparatus of claim 5 wherein said upper chamber comprises a cylinder, said cylinder having a bottom having a plurality of openings passing therethrough and said cylinder having a side having a plurality of openings passing therethrough.
16. A dispenser, comprising:
- a tee connector having an upper opening, said tee connector forming a lower channel; and  
a cylinder secured to said upper opening of said tee connector, said cylinder forming an upper chamber, said upper chamber having a lower portion disposed below an upper portion of said lower chamber and above a lower portion of said lower chamber;  
said lower portion of said upper chamber having a bottom with a plurality of openings passing therethrough and having a side with a plurality of openings passing therethrough; and  
said lower portion of said lower chamber being unobstructed over substantially its entire length.
17. The apparatus of claim 16, further comprising:
- a first reducer bushing operably connected to an upstream opening of said tee connector; and  
a second reducer bushing operably connected to a downstream opening of said tee connector.

18. The apparatus of claim 17, further comprising:  
a first powered valve operably connected to said first reducer bushing; and  
a second powered valve operably connected to said second reducer bushing.